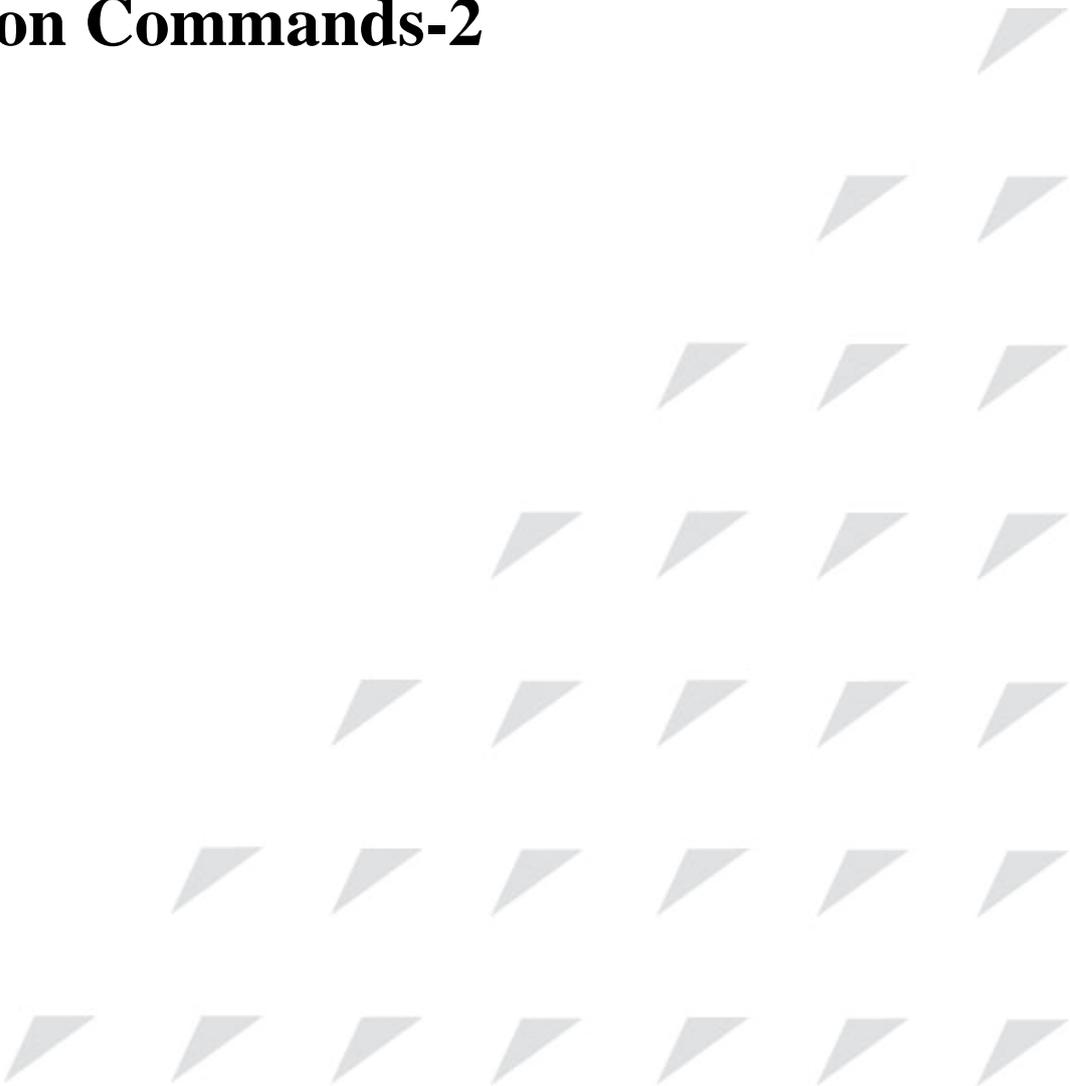


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**QoS Function Commands-2**



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# Chapter 1 QoS Function Commands

## 1.1 class-map

### [Function]

Create or delete class-map. Use this command can separate specific data flow and the matching conditions contain ACL, IP priority, DSCP and class, VLAN as well.

### [Command Format]

**class-map** *class-map-name* [*match-all* / *match-any* / *double-tagging*]

**no class-map** *class-map-name*

### [Parameters]

*class-map-name*: specify the name of a class-map, the maximum character number is 16.

*match-all*: type of class-map, perform a logical-AND among all matches, default to be match-all.

*match-any*: type of class-map, perform a logical-OR among all matches.

*double-tagging*: type of class-map, the rule of this class-map definition will become effective as per double TAG frame format.

### [Command Modes]

Global configuration mode; Privileged user.

### [Executing Command Instruction]

Use the **class-map** command to separate specific data flow and the match criteria contain ACL, IP priority, DSCP and class, VLAN as well. Create a class-map by this command and enter (config-cmap) configuration view, match command can be used to define flow in the view. User need to assign type before creating a new class-map; if not, just enter (config-cmap) configuration view.

### [Explanation of command execution echo]

*Create the class map successfully*

*Create the class map unsuccessfully*

*Delete the class map successfully*

*Delete the class map unsuccessfully*

*The input name is too long.*

*The class map does not exist.*

*The class map has existed.*

**[Example]**

```
Raisecom(config)#class-map aaa
```

```
Raisecom(config-cmap)#exit
```

```
Raisecom(config)#no class-map aaa
```

**[Related commands]**

Commands	Description
<b>show class-map</b> <i>[class-map-name]</i>	Show class-map information.

## 1.2 class-map

**[Function]**

In policy-map configuration mode, using **class-map** command to specify a typical class-map and the service policy, the prompt will change to config-pmap-c after typing this command.

**[Command format]**

**[no] class** *class-map-name*

**[Parameter]**

*class-map-name*: specify the name of class-map, maximum character number is 16.

**[Command mode]**

Policy-map (PMAP) configuration mode; Privileged user

**[Executing Command Instruction]**

In policy-map configuration mode using the command **class-map** to specify flow, the prompt will change to config-pmap-c after typing this command. Then, service policies for a class map can be specified.

**[Explanation of command execution echo]**

*Set the class map successfully*

*Set the class map unsuccessfully*

*The input name is too long.*

*The class map does not exist.*

**[Example]**

```
Raisecom(config-pmap)# class-map aaa
```

Raisecom(config-pmap-c)#**exit**

Raisecom(config-pmap)#no **class-map** *aaa*

**[Related commands]**

Commands	Description
<b>show policy-map</b> [ <i>policy-map-name</i> ]	Show policy-map information.

## 1.3 copy-to-mirror

**[Function]**

Set flow mirror.

**[Command format]**

**copy-to-mirror**

**no copy-to-mirror**

**[Command Modes]**

PMAP-C configuration mode; Privileged user

**[Executing Command Instruction]**

Mirror function must be enabled first. Mirror the target port packet to mirror port.

**[Explanation of command execution echo]**

*Set successfully*

*Set unsuccessfully*

**[Example]**

Raisecom(config-pmap-c)#**copy-to-mirror**

Raisecom(config-pmap-c)#**no copy-to-mirror**

**[Related commands]**

Commands	Description
<b>show policy-map</b> [ <i>policy-map-name</i> ]	Show policy-map information.

## 1.4 description (class-map)

**[Function]**

Configure or modify the description of class-map.

**[Command format]**

**description** *WORD*

**[Parameter]**

*WORD*: set the description information of class-map, the maximum character number is 255,

can not separate by a space.

**[Command Modes]**

CMAP configuration mode; Privileged user.

**[Executing Command Instruction]**

Add class-map description information.

**[Explanation of command execution echo]**

*Set the class map description successfully*

*Set the class map description unsuccessfully*

*The input name is too long.*

**[Example]**

Raisecom(config-cmap)# **description** *this-is-a-class-map*

**[Related commands]**

Commands	Description
<b>show class-map</b> <i>[class-map-name]</i>	Show class-map information.

## 1.5 description (policy-map)

**[Function]**

Configure or modify the description information of policy-map.

**[Command format]**

**description** *WORD*

**[Parameter]**

*WORD*: set the description information of policy-map, the maximum character number is 255, can not be separated by a space.

**[Command Modes]**

PMP configuration mode; Privileged user.

**[Executing Command Instruction]**

Add the description information for policy map.

**[Explanation of command execution echo]**

*Set the policy map description successfully*

*Set the policy map description unsuccessfully*

*The input name is too long.*

**[Example]**

```
Raisecom(config-pmap)# description this-is-a-policy-map
```

**[Related commands]**

Commands	Description
<b>show policy-map</b> [ <i>policy-map-name</i> ]	Show policy-map information.

## 1.6 mls qos {aggregate-policer | class-policer | single-policer }

**[Function]**

Configure policer.

**[Command format]**

```
mls qos {aggregate-policer | class-policer | single-policer} policer-name rate burst  
[exceed-action {drop | policed-dscp-transmit dscp}]
```

```
no mls qos {aggregate-policer | class-policer | single-policer} policer-name
```

**[Parameter]**

*aggregate-policer*: all the class-map under this police-map will use the same policer (that is to say, all the class-maps share this policer).

*class-policer*: all the match conditions in the class-map share this policer.

*single-policer*: when there is more than one match conditions in one class-map, each match condition uses one policer.

*policer-name*: appoint the name for policer, the maximum length is 16 characters.

*rate*: limited speed, unit is Kbps.

*burst*: limited value of burst, unit is KB.

*drop*: when the traffic exceeds the defined rate and burst, drop the packets.

*policed-dscp-transmit*: when the traffic exceed the defined rate and burst, change the dscp to a lower value.

*dscp*: when the traffic exceeds defined rate and burst, change dscp value to this value.

**[Command Modes]**

Global configuration mode; privileged user.

**[Executing Command Instruction]**

Create or delete policer. If do not specify **exceed-action**, the default operation is **drop**.

**[Explanation of command execution echo]**

*Create the policer successfully.*

*Create the policer unsuccessfully.*

Delete the policer successfully.

Delete the policer unsuccessfully.

The input name is too long.

The policer has not existed.

The policer has existed.

#### [Example]

```
Raisecom(config)# mls qos aggregate-policer sss 400 60 exceed-action drop
```

```
Raisecom(config)# mls qos aggregate-policer sss 400 60 exceed-action
policed-dscp-transmit 3
```

```
Raisecom(config)# no mls qos aggregate-policer aaa
```

#### [Related commands]

Commands	Description
<code>show mls qos {aggregate-policer / class-policer / single-policer} [policer-name]</code>	Show policer information.

## 1.7 mls qos dscp-mutation

#### [Function]

Use DSCP MUTATION mapping table on the ports.

#### [Command format]

```
mls qos dscp-mutation dscp-name
```

```
no mls qos dscp-mutation dscp-name
```

#### [Parameter]

*dscp-name*: specify the name of dscp-mutation, maximum length of the name is 16 characters.

#### [Default]

Default dscp mutation name is default-dscp, mapping relationship is 0->0, 1->1, ..., 63->63.

#### [Command Modes]

Port/range configuration mode; privileged user.

#### [Executing Command Instruction]

If users need to realize QoS between two independent regions, you can set the edge port to trust DSCP, and the port will receive the packets and trust the DSCP value of ingress packets, and the classification will be avoided. If the DSCP values of two QOS regions indicate differently, DSCP-to-DCSP map is available for the mutation.

**[Explanation of command execution echo]**

*Set the dscp mutation for the port successfully.*

*Set the dscp mutation for the port unsuccessfully.*

*The input name is too long.*

**[Example]**

```
Raisecom(config-port)# mls qos dscp-mutation aaa
```

```
Raisecom(config-port)# no mls qos dscp-mutation aaa
```

**[Related commands]**

Commands	Description
<b>show mls qos port</b> <i>portid</i>	Show port dscp-mutation information.

## 1.8 mls qos trust

**[Function]**

Configure global trust state.

**[Command format]**

```
mls qos trust [cos | dscp | ip-precedence]
```

```
no mls qos trust [cos | dscp | ip-precedence]
```

**[Parameter]**

**CoS:** classify based on the CoS value of ingress packets. For UNTAG packets, use the default CoS value for the port, that is 0.

**DSCP:** classify based on the DSCP value of input packet. To non-IP packet, if the packet is tag, use the CoS value of the packet, if the packet is untag, use the default CoS value. Switch maps the CoS value to DSCP by CoS-to-CoS mapping table.

**IP priority:** classify based on the priority of incoming packet. To non-IP packet, if the packet is tag, use the CoS value of the packet, if the packet is untag, use the default CoS value for the packet. Switch maps the CoS value to DSCP through CoS-to-DSCP mapping table.

**[Default]**

Default configuration is distrust; that is distrust state.

**[Command Modes]**

Global configuration mode; privileged user.

**[Executing Command Instruction]**

Use this command to set the CoS, IP priority or dscp of switch trust packets at the internal QoS priority.

**[Explanation of command execution echo]**

*Set the trust state for the switch successfully.*

*Set the trust state for the switch unsuccessfully.*

**[Example]**

Raisecom(config)#**mls qos trust cos**

Raisecom(config)#**no mls qos cos**

**[Related commands]**

Commands	Description
<b>show mls qos port</b>	Show QOS configuration information.

## 1.9 mls qos trust

**[Function]**

Configure global trust state.

Note: devices in types of ISCOM2826E/ 2828F/ 2852/ 2009/ 2109/ 2118/ RC581-FE/ 581-GE/ 551-FE/ 551-GE/ 551-4FE do not support the property ip-precedence.

**[Command format]**

**mls qos trust** [*cos | dscp | ip-precedence*]

**no mls qos trust**

**[Parameter]**

*CoS*: classify ingress packets based on the CoS value. For UNTAG packet, use the port default-CoS value, that is 0.

*DSCP*: classify ingress packets based on the DSCP value. For non-IP packet, if the packet is tag, use the CoS value of the packet, if the packet is untag, use the default CoS value. Switch maps the CoS value to DSCP by CoS-to-DSCP mapping table.

*IP precedence*: classify based on the priority of incoming packet. For non-IP packet, if the packet is tagged, use the CoS value of the packet, if the packet is untagged, use the default CoS value of the packet. Switch maps the CoS value to DSCP through CoS-to-DSCP mapping table.

**[Default]**

distrust

**[Command Modes]**

Global configuration mode; privileged user.

**[Executing Command Instruction]**

Use this command to set the port to trust the CoS, IP precedence or DSCP as internal QoS priority.

**[Explanation of command execution echo]**

*Set the trust state for the switch successfully.*

*Set the trust state for the switch unsuccessfully.*

**[Example]**

Raisecom(config)#**interface port 1**

Raisecom(config-port)#**mls qos trust cos**

Raisecom(config-port)#**no mls qos trust**

**[Related commands]**

Commands	Description
<b>show mls qos port <i>portid</i></b>	Show QOS configuration information.

## 1.10 police

**[Function]**

Configure action for traffic.

**[Command format]**

**[no] police *policer-name***

**[Parameter]**

*policer-name*: specify the name of policer, maximum length is 16 characters.

**[Command Modes]**

PMAP-C configuration mode; privileged user.

**[Executing Command Instruction]**

Set the plastic action for the traffic.

**[Explanation of command execution echo]**

*Apply the policer successfully.*

*Apply the policer unsuccessfully.*

**[Example]**

Raisecom(config-pmap-c)#**police aaa**

Raisecom(config-pmap-c)#**no police aaa**

**[Related commands]**

Commands	Description
<b>show policy-map [<i>policy-map-name</i>]</b>	Show policy-map information.

## 1.11 policy-map

**[Function]**

Create or delete **policy-map**.

**[Command format]**

**[no] policy-map** *policy-map-name*

**[Parameter]**

*policy-map-name*: specify the name of policy -map, maximum is 16 characters.

**[Command Modes]**

Global configuration mode; privileged user.

**[Executing Command Instruction]**

Use this command to create a policy-map and enter (config-pmap) configuration view. Use **set**, **trust** command to set the new priority for the traffic or set the new trust relationship under this view. One policy map can include several class map.

**[Explanation of command execution echo]**

*Create the policy map successfully.*

*Create the policy map unsuccessfully.*

*Delete the policy map successfully.*

*Create the policy map unsuccessfully.*

*The input name is too long.*

**[Example]**

```
Raisecom(config)# policy-map aaa
```

```
Raisecom(config-pmap)#exit
```

```
Raisecom(config)# no policy-map aaa
```

**[Related commands]**

Commands	Description
<b>show policy-map</b> [ <i>policy-map-name</i> ]	Show policy-map information.

## 1.12 queue cos-map

**[Function]**

Configure the mapping from switch internal priority to output queues.

**[Command format]**

**queue cos-map** *queue-id cos-list*

**no queue cos-map**

**[Parameter]**

*queue-id*: Switch queue ID, range from 1 to 4.

*cos-list*: cos value, range from 0 to 7, format is:2,3,5-7

**[Default]**

COS value	0-1	2-3	4-5	6-7
Queue ID	1	2	3	4

**[Command Modes]**

Global configuration mode; privileged user.

**[Executing Command Instruction]**

Configure the mapping from switch internal priority to queue.

**[Explanation of command execution echo]**

*Set cos priority to queue map successfully.*

*Set cos priority to queue map unsuccessfully.*

**[Example]**

Raisecom(config)# **queue cos-map 1 2-5**

Raisecom(config)#**no queue cos-map**

**[Related commands]**

Commands	Description
<b>show mls qos queueing</b>	Show queue information.

## 1.13 redirect-to port

**[Function]**

Configure the action of flow redirection.

**[Command format]**

**redirect-to port** *to-port*

**no redirect-to port**

**[Parameter]**

*to-port*: send the packet to the redirection port.

**[Command Modes]**

PMAP-C configuration mode; privileged user.

**[Executing Command Instruction]**

Configure the flow direction, packet meet this condition will be sent to redirection port, and don't send to the former forwarding port.

**[Explanation of command execution echo]**

*Set successfully*

*Set unsuccessfully*

**[Example]**

Raisecom(config-pmap-c)#**redirect-to port 3**

Raisecom(config-pmap-c)#**no redirect-to port**

**[Related commands]**

Commands	Description
<b>show policy-map</b> [ <i>policy-map-name</i> ]	Show policy-map information.

## 1.14 service-policy

**[Function]**

Apply policy on the port.

**[Command format]**

**service-policy** *policy-map-name* **ingress** *portid* [ **egress** *portlist*]

**no service-policy** *policy-map-name* **ingress** *portid*

**[Parameter]**

*policy-map-name*: specify the name of policy, the maximum length is 16 characters.

*portid*: ingress port ID

*portlist*: egress port ID

**[Command Modes]**

Global configuration mode; privileged user.

**[Executing Command Instruction]**

Apply the policy on the port. The setting is mutually exclusive with the trust on the port. If QoS still not has been started, setting doesn't work.

**[Explanation of command execution echo]**

*Apply the policy successfully.*

*Apply the policy unsuccessfully.*

*The policy has attached on the port.*

**[Example]**

Raisecom(config)# **service-policy** *aaa* **ingress** *1* **egress** *2-4*

Raisecom(config)#**no service-policy** *aaa* **ingress** *1*

**[Related commands]**

Commands	Description
<b>show mls qos port</b> [ <i>portid</i> ]	Show port information.

## 1.15 show class-map

### [Function]

Show class-map information.

### [Command format]

**show class-map** [*class-map-name*]

### [Parameter]

*class-map-name*: specify the name of class-map, the maximum length is 16 characters.

### [Command Modes]

Privileged EXEC; privileged user.

### [Executing Command Instruction]

Show class-map information.

### [Explanation of command execution echo]

Raisecom#**show class-map**

*Class Map match-any aaa (id 0)*

*Description:aaaaaaaaaaaaaaaaaaaa*

*Match none*

### [Example]

Raisecom# **show class-map**

### [Related commands]

Commands	Description
<b>class-map</b> <i>class-map-name</i> [ <i>match-all / match-any</i> ]	Create class map.
<b>description</b> <i>WORD</i>	Set class map description information.
<b>match</b>	Set match announcement.

## 1.16 show mls qos policer

### [Function]

Show policer configuration information in QOS.

### [Command format]

**show mls qos policer** [ *police-name* | **aggregate-policer** | **class-policer** | **single-policer** ]

### [Parameter]

*police-name*: policer name.

**[Command Modes]**

Privileged EXEC; privileged user.

**[Executing Command Instruction]**

Show policer configuration information in QoS

**[Explanation of command execution echo]**

Raisecom#**show mls qos policer**

*aggregate-policer bbb 50 500 exceed-action drop*

*Not used by any policy map*

Raisecom#**show mls qos police aggregate-policer**

*aggregate-policer bbb 50 500 exceed-action drop*

*Not used by any policy map*

**[Example]**

Raisecom# **show mls qos policer**

**[Related commands]**

Commands	Description
<b>mls qos {aggregate-policer  class-policer single-policer} policername rate burst [exceed-action {drop policed-dscp-transmit dscp}]</b>	Configure policer

## 1.17 show mls qos port policers

**[Function]**

Show policer configuration information on the port.

**[Command format]**

**show mls qos port [portid] policers**

**[Parameter]**

*portid*: port ID.

**[Command Modes]**

Privileged EXEC, privilege user

**[Executing Command Instruction]**

Show the policer configuration information on the port.

**[Explanation of command execution echo]**

Raisecom#**show mls qos port 1 policer**

*Port id 1*

*policymap name: hh*

*policer type: Aggregate, name: aa*

*rate: 433 kbps, burst: 43 kbyte, exceed action: drop*

#### [Example]

Raisecom# **show mls qos port 1 policer**

#### [Related commands]

Commands	Description
<b>mls qos {aggregate-policer  class-policer single-policer} policername rate burst [exceed-action {drop policed-dscp-transmit dscp}]</b>	Configure policer
<b>police policer-name</b>	Apply policer

## 1.18 show policy-map

#### [Function]

Show class-map information.

#### [Command format]

**show policy-map** [*policy-map-name*] [**class** *class-name*]

**show policy-map port** [*portId*]

#### [Parameter]

*policy-map-name*: specify the name of policy-map, the maximum length is 16 characters.

*class-name*: specify the name of class-map, the maximum length is 16 characters.

*portid*: port id

#### [Command Modes]

Privileged EXEC; privileged user.

#### [Executing Command Instruction]

Show policy-map information.

#### [Explanation of command execution echo]

Raisecom#**show policy-map port 1**

*port 1:*

*Policy Map aaa:*

*Egerss:n/a*

*Class Map :aaa (match-any)*

Raisecom#**show policy-map**

*Policy Map aaa*

*Class aaa*

*police bbb*

*trust dscp*

Raisecom#**show policy-map aaa class aaa**

*Policy Map aaa*

*Class aaa*

*police bbb*

*trust dscp*

#### [Example]

Raisecom# **show policy-map**

Raisecom# **show policy-map aaa**

Raisecom# **show policy-map class-map aaa**

Raisecom# **show policy-map aaa class-map aaa**

Raisecom# **show policy-map port 1**

#### [Related commands]

Commands	Description
<b>Policy-map</b> <i>policy-map-name</i>	Create policy map.
<b>description</b> <i>WORD</i>	Set policy map description information.
<b>[no] class</b> <i>class-map-name</i>	Apply class map on the policy.
<b>set</b> { <b>ip dscp</b> <i>new-dscp</i>   <b>ip precedence</b> <i>new-precedence</i>   <b>cos</b> <i>new-cos</i> }	Set the action.
<b>[no] police</b> <i>policer-name</i>	Apply policer.
<b>trust</b> [ <b>cos</b>   <b>dscp</b>   <b>ip-precedence</b> ]	Set the trust state for the traffic.



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